

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF OHIO  
Western Division (Dayton)**

THE PROCTER & GAMBLE COMPANY,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil Action No.: C-1-02-393
	)	
THE COCA-COLA COMPANY,	)	Hon. Walter Herbert Rice (C.J.)
	)	Hon. Sharon Ovington (Magistrate)
Defendant.	)	

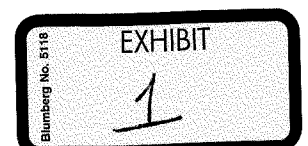
**DECLARATION OF ROBERT A. BAKER**

Pursuant to 35 U.S.C. § 1746, I, Robert A. Baker, hereby declare as follows:

**I. BACKGROUND**

1. I have been involved in citrus juice research for more than 35 years. I began working at the Citrus and Subtropical Products Laboratory of the United States Department of Agriculture in Winter Haven, Florida in 1967. As a scientist at that laboratory, I conducted research on diverse aspects of citrus processing, including but not limited to citrus juice cloud stabilization, juice clarification, citrus pectinesterase, juice pectin methylation levels and their relation to cloud stability, calcium firming of citrus sections and calcium fortification of juices. I obtained patents on novel procedures for stabilizing juice cloud without heating, and for using an inexpensive pectin derivative to quickly clarify lime juice.

2. Prior to my retirement from full-time employment in 2001, I belonged to the American Chemical Society, the Institute of Food Technologists and the Florida State



Horticultural Society, and for 10 years served as an Associate Editor for the Journal of Food Science, published by the Institute of Food Technologists.

3. In addition, I have written approximately 50-60 publications in the area of citrus fruit processing and technology, and have given over 60 presentations of my research at local, state, national, and international meetings. My complete curriculum vitae is attached as Exhibit A.

## **II. COMPOSITION OF CITRUS OILS AND ESSENCES POSSIBLY USED BY COCA-COLA IN PROCESSING THE ACCUSED PRODUCTS.**

4. It is my understanding that one of the positions taken by The Coca-Cola Company ("Coca-Cola") is that they do not infringe U.S. Patent No. 4,722,847 (the "'847 patent") because they do not add any acids to the products at issue.

5. I further understand that Coca-Cola has submitted the Declarations of Dr. Laszlo Somogyi and Dr. Robert J. Braddock in support of its position that information concerning Coca-Cola's use of certain commercial flavoring ingredients should be protected from disclosure because of concerns regarding confidentiality of that information. Based on these Declarations, Coca-Cola argues that these ingredients are irrelevant to the case because they are unlikely to contain any citric acid or malic acid, and, therefore, P&G is not entitled to learn their identity.

6. I have reviewed the Declarations submitted by Drs. Somogyi and Braddock. Based upon my review, I note that both Drs. Somogyi and Braddock conclude that the flavoring ingredients at issue are unlikely to contain either citric acid or malic acid. I agree completely with this conclusion as it relates to these particular acids. Both citric and malic acids are nonvolatile compounds, which would not be expected to dissolve in nonpolar solvents such as the terpenes found in essential oils. However, neither individual addresses the question of whether other organic acids might be present in these ingredients.

7. Also not discussed by Drs. Braddock and Somogyi is the fact that there are not one, but three fractions from citrus processing which can be used as flavor enhancers. These are “essential oils”, “essence oils”, and “aqueous essence.” (See Appendix C to the Declaration of Dr. Braddock, attached hereto as Exhibit B, p. 149). “Essential oils” are cold pressed oils derived largely from citrus peel during processing, and comprise a mixture of nonpolar compounds. To buttress his point, Dr. Braddock has provided in his Appendix D, a copy of Dr. P.E. Shaw’s review, entitled “Review of Quantitative Analyses of Citrus Essential Oils.” Page 248 of that review contains a table that clearly shows no acid compounds present in orange essential oils. The second byproduct fraction used for flavoring is called “essence oil.” These highly volatile oils are recovered as condensates from the evaporation process during juice concentration. As nonpolar compounds, these would also be expected to have no compounds with acid functions dissolved therein.

8. The third flavor fraction, “aqueous essence,” is compositionally quite different from essential oils or essence oils. As indicated by its name, it is an aqueous based flavor fraction, which is condensed from evaporation vapors of juice during concentration. Aqueous essences contain about 65% water, and 12-25% ethanol, (see Ex. B, p. 164), and thus are polar and capable of containing organic acids. Based on my knowledge, research, and experience in the area of citrus juice processing, it is my understanding that aqueous essences may contain some small amount of volatile organic acids. In fact, a paper by Dr. P.E. Shaw identifies a series of ten volatile organic acids, ranging in molecular weight from formic, acetic and propionic acids to decanoic acid, that have been shown to occur in aqueous essences. (See Exhibit C, attached hereto, p. 465.) This review summarizes the findings of five separate research papers reporting organic acids in orange aqueous essences. (Dr. Shaw also authored the chapter entitled

“Essential Oils and Essences” that Dr. Braddock attached as Appendix C to his Declaration.) It is therefore apparent that, if orange aqueous essences were being used by Coca-Cola to enhance the flavor of the accused products, some small amount of organic acids would be added.

9. Accordingly, without knowing the identity of the particular flavoring ingredient that Coca-Cola uses to manufacture its juice products, it is impossible to know whether in fact it is adding any acids through the addition of these ingredients. The only way to ascertain this would be to learn the identity of the flavor ingredients being used.

### **III. DISCLOSURE OF FORMULATION INFORMATION**

10. I also understand that Coca-Cola has expressed concern that disclosure of information relating to its use of the aforementioned flavoring ingredients to experts retained by The Procter & Gamble Company (“P&G”) could put it at a competitive disadvantage, because such experts might disclose such information or use it in future engagements.

11. As an initial matter, at no time in my career have I acted as a flavor consultant or worked on an assignment for one company involving “reverse engineering” of its competitors’ products. I have no intentions or expectations of accepting such an engagement at any time in the future.

12. Moreover, I have reviewed the Protective Order entered by the Court in this case and have signed a declaration, (attached hereto as Exhibit D), agreeing to be bound by the terms thereof. I understand that, as a result of doing so, I am required to refrain from using any confidential information that I receive in connection with this case for any purpose other than this case. I further understand that I am not permitted to disclose such information to anyone not otherwise permitted to review such information under the Protective Order. I am well aware of

the sensitivity of such information to the parties involved in this matter, and I will not violate these, or any other, terms of the Protective Order.

I hereby declare under the penalty of perjury that the foregoing is true and correct.

Dated: 9/15/03

Robert A. Baker  
Robert A. Baker